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Mineral Industry Surveys

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CHROMIUM IN MAY 2005

On the basis of gross weight, consumption of chromium ferroalloys and metal in May 2005 decreased slightly compared with consumption in April 2005, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in May 2005, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of May 2005, U.S. foreign trade data for selected chromium-containing materials in April 2005, and chromite ore prices.

Update

The Defense National Stockpile Center announced the sale, in June, of 4,536 metric tons (t) of ferrochromium comprising 3,629 t of high-carbon ferrochromium and 907 t of low-carbon ferrochromium. The sale was valued at $4.7 million or $0.47 per pound-gross weight (Defense National Stockpile Center, 2005).

Reference Cited

Defense National Stockpile Center, 2005, Stockpile announces ferrochromium sales for June 2005: Defense National Stockpile Center, News Release DNSC-05-2624, July 5, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS[1]

(Metric tons, gross weight)

	2004	2005				
	January-December[2]	March	First quarter	April	May	January-May[2]
Production:						
Stainless steel production[3]	2,000,000	210,000	610,000	206,000	212,000	1,030,000 [4]
Components of U.S. supply:						
Stainless steel scrap receipts	787,000	60,300	186,000	65,500	52,300	304,000
Stainless steel scrap consumption	1,120,000	87,300	268,000	94,700	81,900	445,000
Imports for consumption:						
Chromite ore	153,000	4,690	39,700	216	NA	39,900 [5]
Ferrochromium:						
More than 4% carbon	398,000	20,700	117,000	55,800	NA	173,000 [5]
More than 3% carbon but not more than 4% carbon	30	--	18	--	NA	18 [5]
More than 0.5%, but not more than 3% carbon	5,720	150	2,430	1,040	NA	3,470 [5]
Not more than 0.5% carbon	31,400	3,330	11,100	4,310	NA	15,400 [5]
Ferrochromium silicon	30,600	475	10,200	3,690	NA	13,900 [5]
Total ferroalloy imports	466,000	24,600	141,000	64,800	NA	206,000 [5]
Chromium metal[6]	9,650 [r]	816	3,020	1,050	NA	4,060 [5]
Stainless steel	811,000	72,400	218,000	66,500	NA	284,000 [5]
Stainless steel scrap	146,000	10,000	31,800	14,200	NA	46,000 [5]
Distribution of U.S. supply:						
Consumption, industry, chromium ferroalloys and metal	432,000	34,200	105,000	36,800 [r]	35,600	177,000
Exports:						
Chromite ore	43,100	7,910	12,000	6,930	NA	18,900 [5]
Chromium ferroalloys:						
High-carbon ferrochromium	6,580	2,910	3,690	575	NA	4,260 [5]
Low-carbon ferrochromium	1,410	121	1,900	103	NA	2,000 [5]
Ferrochromium silicon	1,150	20	48	8	NA	56 [5]
Total ferroalloy exports	9,140	3,050	5,630	686	NA	6,320 [5]
Chromium metal	931	66	205	85	NA	290 [5]
Stainless steel	323,000	37,700	92,300	38,700	NA	131,000 [5]
Stainless steel scrap	478,000	53,200	138,000	76,100	NA	214,000 [5]
Stocks at end of period:						
Consumer, industry, chromium ferroalloys and metal	XX	12,400	XX	12,300	12,600	XX
Government stockpile:						
Chromium ferroalloys	XX	555,000	XX	546,000	546,000	XX
Chromium metal	XX	6,190	XX	6,190	6,190	XX

[r]Revised. NA Not available. XX Not applicable. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

[4]Includes revised data that is not broken out by specific month.

[5]Includes January through April data; May data not available.

[6]Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS
OF CHROMIUM PRODUCTS IN 2005[1, 2]

(Metric tons, gross weight unless otherwise noted)

	April	May	January-May[3]
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	303 r	361	1,930
High-strength low-alloy steel	640	642	3,170
Stainless and heat-resisting steel	31,800	30,900	152,000
Full alloy steel	1,620 r	1,510	8,200
Electrical steel	W	W	W
Tool steel	479	468	2,260
Unspecified steel	W	W	W
Cast irons	W	W	W
Superalloys	912	773	4,180
Other alloys[4]	70	62	328
Total	36,800 r	35,600	177,000
Total, chromium content	21,100 r	20,500	103,000
Consumption by material:			
Low-carbon ferrochromium	1,890 r	1,820	9,670
High-carbon ferrochromium	31,100 r	30,000	150,000
Ferrochromium silicon	3,120	3,140	14,600
Chromium metal	452	425	2,120
Chromite ore	W	W	W
Chromium-aluminum alloy	31	32	151
Other chromium materials	W	W	W
Total	36,800 r	35,600	177,000
Total, chromium content	21,100 r	20,500	103,000
Consumer stocks:			
Low-carbon ferrochromium	2,000	2,020	XX
High-carbon ferrochromium	8,790	9,130	XX
Ferrochromium silicon	1,300	1,230	XX
Chromium metal	183	181	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	26	29	XX
Other chromium materials	W	W	XX
Total	12,300	123,000	XX
Total, chromium content	7,190	7,390	XX

rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes estimates.

[3]May include revised data.

[4]Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY
OF CHROMIUM MATERIALS[1, 2]

(Metric tons)

Period	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2004:			
May	430,000	208,000	6,660
June	425,000	208,000	6,660
July	414,000	208,000	6,670
August	412,000	206,000	6,670
September	408,000	192,000	6,670
October	404,000	192,000	6,670
November	398,000	191,000	6,670
December	398,000	191,000	6,670
2005:			
January	386,000	190,000	6,190
February	378,000	188,000	6,190
March	368,000	187,000	6,190
April	359,000	187,000	6,190
May	359,000	187,000	6,190

[1]Data are rounded to no more than three significant digits.

[2]These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

Source: Defense National Stockpile Center.

TABLE 4

U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL[1]

Period	Chromite ore		Chromium ferroalloys[2]			Chromium metal[3]	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2004:							
April	1,340	$359	623	348	$735	69	$2,230
May	3,920	480	370	198	443	177	1,850
June	11,000	1,570	671	362	931	79	1,400
July	8,180	2,130	713	398	1,000	100	1,570
August	10,200	2,680	533	322	685	93	1,510
September	2,750	1,590	706	401	876	53	1,290
October	823	270	565	347	799	58	1,190
November	507	197	616	398	843	46	1,020
December	771	231	639	388	897	51	657
January-December	43,100	10,400	9,140	5,320	12,000	931	17,600
2005:							
January	2,550	618	427	257	610	103	1,070
February	1,540	404	2,150	1,330	2,910	35	796
March	7,910	1,310	3,050	1,850	4,070	66	983
April	6,930	1,820	686	419	913	85	1,580
January-April	18,900	4,150	6,320	3,850	8,510	290	4,430

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

[3]Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5

U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL[1]

(Metric tons)

	2004	2005		
	January-December[2]	March	April	January-April[2]
Chromite ore:				
More than 40% but less than 46% chromic oxide:				
Gross weight	1,690	168	97	412
Chromic oxide content	761	77	44	188
46% or more chromic oxide:				
Gross weight	151,000	4,520	119	39,500
Chromic oxide content	71,600	2,090	59	18,300
Total, all grades:				
Gross weight	153,000	4,690	216	39,900
Chromic oxide content	72,400	2,160	103	18,500
Ferrochromium:				
Low-carbon:[3]				
Not more than 0.5%:				
Gross weight	31,400	3,330	4,310	15,400
Chromium content	21,100	2,170	2,970	10,500
More than 0.5% but not more than 3%:				
Gross weight	5,720	150	1,040	3,470
Chromium content	3,830	105	718	2,260
Total, low-carbon:				
Gross weight	37,100	3,480	5,350	18,900
Chromium content	24,900	2,280	3,690	12,800
Medium-carbon:[4]				
Gross weight	30	--	--	18
Chromium content	16	--	--	NA
High-carbon:[5]				
Gross weight	398,000	20,700	55,800	173,000
Chromium content	223,000	11,600	32,100	101,000
Total, all grades:				
Gross weight	435,000	24,100	61,200	192,000
Chromium content	248,000	13,900	35,800	114,000
Chromium metal:				
Unwrought powders	1,350	94	86	275
Waste and scrap	94 [r]	--	11	14
Other than waste and scrap and unwrought powders	8,200	722	950	3,770
Total, all grades	9,650 [r]	816	1,050	4,060

[r]Revised. NA Not available. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Ferrochromium containing not more than 3% carbon.

[4]Ferrochromium containing more than 3% carbon but not more than 4% carbon.

[5]Ferrrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6

U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2005, BY GRADE AND BY COUNTRY[1]

Grade and country	April			January-April[2]		
	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)
High-carbon ferrochromium:[4]						
China	--	--	--	5	4	$7
Kazakhstan	17,600	12,200	$19,000	48,500	33,500	50,500
Russia	3,900	2,560	3,310	16,400	10,800	13,700
South Africa	30,000	14,700	19,000	82,600	41,900	52,700
Zimbabwe	4,360	2,610	3,700	25,700	15,300	20,700
Total	55,800	32,100	45,000	173,000	101,000	138,000
Medium-carbon ferrochromium[5], China	--	--	--	18	NA	41
Low-carbon ferrochromium:[6]						
More than 0.5% but not more than 3% carbon:						
India	--	--	--	20	13	17
Kazakhstan	600	412	990	850	587	1,350
Russia	441	305	632	1,810	1,220	2,000
South Africa	--	--	--	790	433	877
Total	1,040	718	1,620	3,470	2,260	4,230
Not more than 0.5% carbon:						
China	--	--	--	4	3	11
France	--	--	--	4	4	8
Germany	739	521	1,520	1,830	1,280	3,500
Japan	137	95	359	596	418	1,570
Kazakhstan	250	171	413	1,570	1,070	2,330
Russia	3,180	2,190	5,000	11,200	7,620	15,600
South Africa	--	--	--	208	105	93
Total	4,310	2,970	7,290	15,400	10,500	23,200
All grades:						
China	--	--	--	28	26	58
France	--	--	--	4	4	8
Germany	739	521	1,520	1,830	1,280	3,500
India	--	--	--	20	13	17
Japan	137	95	359	596	418	1,570
Kazakhstan	18,400	12,800	20,400	50,900	35,200	54,200
Russia	7,520	5,050	8,940	29,400	19,600	31,300
South Africa	30,000	14,700	19,000	83,600	42,400	53,600
Zimbabwe	4,360	2,610	3,700	25,700	15,300	20,700
Total	61,200	35,800	53,900	192,000	114,000	165,000

NA Not available. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Ferrochromium containing more than 4% carbon.

[5]Ferrochromium containing more than 3% but not more than 4% carbon.

[6]Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7

U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2005, BY GRADE AND BY COUNTRY[1]

Grade and country	April		January-April[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Unwrought powders:				
China	4	$98	27	$238
France	1	9	3	52
Germany	7	83	8	122
Japan	54	908	138	2,570
Korea, Republic of	--	--	1	22
Russia	--	--	60	284
Spain	19	82	37	166
Sweden	(4)	3	(4)	3
United Kingdom	(4)	33	(4)	148
Total	86	1,220	275	3,600
Waste and scrap:				
Australia	2	11	2	11
Germany	--	--	3	51
Japan	9	120	9	120
Total	11	131	14	183
Other than waste and scrap and unwrought powders:				
Australia	--	--	(4)	2
Austria	--	--	1	8
China	142	470	1,030	4,630
France	309	2,330	853	6,510
Germany	2	15	12	111
India	--	--	1	5
Italy	4	38	4	38
Japan	6	29	25	1,050
Russia	360	2,740	1,310	8,880
United Kingdom	127	806	547	3,500
Total	950	6,430	3,770	24,700
All grades:				
Australia	2	11	2	13
Austria	--	--	1	8
China	147	568	1,050	4,870
France	310	2,340	856	6,570
Germany	9	98	23	284
India	--	--	1	5
Italy	4	38	4	38
Japan	70	1,060	172	3,740
Korea, Republic of	--	--	1	22
Russia	360	2,740	1,370	9,160
Spain	19	82	37	166
Sweden	(4)	3	(4)	3
United Kingdom	127	839	548	3,650
Total	1,050	7,780	4,060	28,500

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 8

U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2005[1]

Stainless steel product	April		January-April	
	Gross weight (metric tons)	Value[2] (thousands)	Gross weight (metric tons)	Value[2] (thousands)
Exports:				
Ingot	831	$4,400	2,730	$15,400
Flat-rolled (width > 600 mm)	18,700	48,500	62,400	165,000
Flat-rolled (width < 600 mm)	11,700	53,800	39,500	151,000
Bars and rods in irregular coils	488	1,440	1,870	5,390
Other bars and rods	3,580	15,600	10,500	52,000
Wire	398	3,090	1,930	13,900
Tubes, pipes, hollow profiles	2,970	18,300	12,100	66,100
Total	38,700	145,000	131,000	469,000
Stainless steel scrap	76,100	77,500	214,000	224,000
Grand total	115,000	223,000	345,000	693,000
Imports:				
Ingot	18,000	50,500	62,700	168,000
Flat-rolled (width > 600 mm)	18,800	50,500	110,000	292,000
Flat-rolled (width < 600 mm)	3,860	14,500	14,000	54,200
Bars and rods in irregular coils	3,830	10,700	15,100	42,100
Other bars and rods	9,510	37,200	35,000	137,000
Wire	3,350	15,000	13,300	56,100
Tubes, pipes, hollow profiles	9,160	45,500	34,000	173,000
Total	66,500	224,000	284,000	922,000
Stainless steel scrap	14,200	13,200	46,000	52,800
Grand total	80,700	237,000	330,000	974,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.

TABLE 9
CHROMITE ORE PRICES

(Dollars per metric ton, gross weight unless otherwise noted)

Week ending	Turkey[1]		South Africa[2]				Philippines[3]
	1	2	1	2	3	4	
2004:							
04/02	135	155	75 - 100	100 - 120	100 - 120	65 - 70	125 - 145
04/09	135	155					
04/16	135	155					
04/23	130	150					
04/30	130	150					
05/07	130	150	75 - 100	100 - 120	100 - 120	65 - 70	125 - 145
05/14	125	145					
05/21	120	140					
05/28	120	140					
06/04	120	140	80 - 110	120 - 140	100 - 120	70 - 90	125 - 145
06/11	120	140					
06/18	115	130					
06/25	115	130					
07/02	115	130	80 - 110	120 - 140	100 - 120	70 - 90	125 - 145
07/09	115	130					
07/16	115	130					
07/23	120	135					
07/30	120	135					
08/06	120	135	85 - 120	125 - 150	100 - 120	75 - 95	125 - 145
08/13	120	135					
08/20	120	135					
08/27	120	135					
09/03	120	135	85 - 120	125 - 150	100 - 120	75 - 95	125 - 145
09/10	120	135					
09/17	120	135					
09/24	120	135					
10/01	120	135	85 - 120	125 - 150	100 - 120	75 - 95	125 - 145
10/08	120	135					
10/15	120	135					
10/22	120	135					
10/29	120	135					
11/05	120	135	85 - 120	125 - 150	100 - 120	75 - 95	125 - 145
11/12	120	135					
11/19	120	135					
11/26	120	135					
12/03	120	135	85 - 125	130 - 150	100 - 120	75 - 95	125 - 145
12/10	130	145					
12/17	130	145					
12/24	130	145					
12/31	130	145					
2005:							
01/07	130	145	75 - 125	120 - 140	100 - 120	70 - 80	125 - 145
01/14	130	145					
01/21	140	155					
01/28	140	155					
02/04	140	155	125 - 150	170 - 190	100 - 120	80 - 90	125 - 145
02/11	140	155					
02/18	150	175					
02/25	165	190					
03/04	175	195	125 - 150	170 - 190	100 - 120	80 - 90	125 - 145
03/11	175	195					
03/18	175	195					
03/25	175	195					

See footnotes at end of table.

TABLE 9--Continued
CHROMITE ORE PRICES

(Dollars per metric ton, gross weight unless otherwise noted)

Week ending	Turkey[1]		South Africa[2]				Philippines[3]
	1	2	1	2	3	4	
2005:							
04/01	175	195	125 - 150	175 - 195	100 - 120	85 - 95	125 - 145
04/08	180	200					
04/15	180	200					
04/22	180	200					
04/29	180	200	125 - 150	175 - 195	100 - 120	85 - 95	125 - 145
05/06	180	200					
05/13	180	200					
05/20	180	200					
05/27	180	200					
06/03	175	195	125 - 145	175 - 205	100 - 120	85 - 100	125 - 145
06/10	175	195					
06/17	175	195					
06/24	155	175					

[1]Turkey 1 (T1) is called 38% - 40% Cr_2O_3 by Ryan's Notes (RN); T2 is called 44% Cr_2O_3 by RN.

[2]South Africa 1 (SA1) is called chemical grade, 46% Cr_2O_3, wet bulk, free on board (f.o.b.) by Industrial Minerals (IM); SA2 is called foundry grade, 46% $Cr2O_3$, wet bulk, f.o.b. by IM; SA3 is called refractory grade, 46% $Cr2O_3$, wet bulk, f.o.b. by IM; SA4 is called metallurgical grade, friable lumpy, 40% $Cr2O_3$ by IM.

[3]Philippines is called refractory grade, f.o.b. by IM.